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Original Article

Clinical Profile of Influenza viral illness – A Recent Observation in Bangladesh

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Abstract

Background: Influenza pandemic is the most serious illness human civilization ever faced regarding morbidity & mortality. The recent outbreak of influenza pandemic (June, 2009) worldwide lead to influenza surveillance study in different countries sponsored by WHO with a view to control any further epidemic or pandemic outbreak of the disease. As a part of nationwide influenza surveillance study we are studying the clinical profile of influenza viral illness among persons seeking care at Dhaka National Medical College Hospital.

Methodology: It was a prospective study form June 2007 to March 2015 in 1527 patients who were hospitalized with cough & difficult breathing and those who seeked out-patien department care for fever with sore throat or cough were included as case in our study.

Result: Between June 2007 to March 2015 we collected specimen from 1527 cases and tested for influenza virus in the microbiology laboratory of ICDDR,B Dhaka. 224 cases were positive for influenza virus (15%), Influenza A and influenza B viral illness was 134 (60%) & 90 (40%) respectively. Fever was the most common complaint in all influenza cases; cough, runny nose and difficulty in respiration were also frequently encountered. Headache, bodyache & sore throat were also presenting feature.

Keyword: Influenza, Surveillance, Clinical profile.

Introduction

Influenza annually infect 5%-15% of the global population, resulting in an estimated 2,50,000 to 5,00,000 deaths per year.[1,2] Influenza is a contagious respiratory illness caused by influenza virus that infect the nose, throat & lungs. Unlike tropical countries prevalence & burden of influenza are well-described for temperate country.[3] People who have influenza or 'Flu' often feel some or all of the features like fever, chill, cough, sore throat, running or stuffy nose, muscle or bodyache, headache, fatigue & vomiting. Influenza virus mainly spreads by droplets made when people with flu cough, sneeze or talk. The recent outbreak of influenza pandemic (June, 2009) worldwide lead to influenza surveillance study in different countries sponsored by WHO with a view to control any further epidemic or pandemic outbreak of the disease. As a part of nationwide influenza surveillance study we are studying the clinical profile of influenza viral illness among persons seeking care at Dhaka National Medical College Hospital.

Methodology

Patient who were hospitalized with cough & difficult breathing & those who seeks care for fever with sore throat or cough were included as case in our study. The former group was studied among indoor patients with provisional diagnosis of severe acute respiratory illness (SARI) whose age is 0–5 year. The later group was studied among outpatient of paediatric & medicine OPD. After obtaining informed consent a throat swab & a nasal swab specimen are collected from each study case & also clinical & demographic informations are recorded. Samples are transported to ICDDR,B Mohakhali, Dhaka where those are tested for presence of influenza virus by real time rRT–PCR. Observational data are analyzed by statistical software SPSS.

Result

Between June 2007 to March 2015 we collected specimen from 1527 cases & tested for influenza virus in the microbiology laboratory of ICDDR, B Dhaka. 224 cases were positive for influenza virus (14.67%) (Table I, II, III). Influenza A & influenza B viral illness were 134 (60%) & 90 (40%) respectively (Table IV). Fever was the most common (100%) complaint in all influenza cases. Cough & runny nose were the next common complaint in ILI cases whereas difficulty in respiration was the commonest feature of SARI cases. Headache, bodyache & sore throat were more common in ILI than SARI cases. These findings are depicted in Fig 1, 2 & 3.

Table I: Influenza positive cases

	No.	Percentage
Sample collected	1527	
Influenza (+)ve	224	14.67%

Table II: Age distribution

Age group	Influenza positive	Percentage
0 – 15 years	121	54
16 – 40 years	67	30
41 – 60 years	23	10
>60 years	13	06
Total	**224**	**14.67%**

Table III: Percentage positivity according to age

Age group	Sample tested	Influenza positive	Percentage
0 – 15 years	840	121	14.4%
16 – 40 years	498	67	13.5%
41 – 60 years	144	23	15.9%
>60 years	45	13	28%
Total	**1527**	**224**	**14.67%**

Table IV: Influenza type

Description	No.	Percentage
Influenza A	134	60%
Influenza B	90	40%
Total	**224**	**100%**

Figure: 1 Clinical features of influenza among Severe acute respiratory illness (SARI) patients in DNMCH

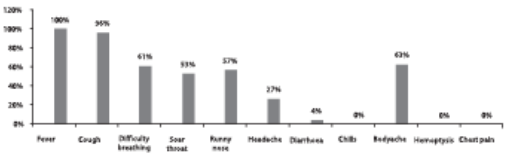


Figure: 2 Clinical features of influenza among Severe pneumonia (SP) patients in DNMCH

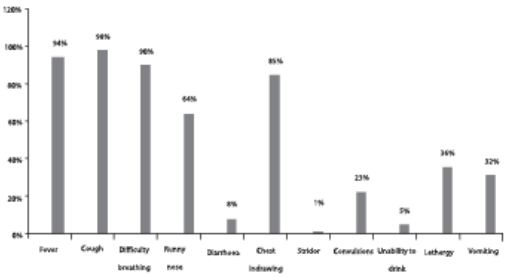
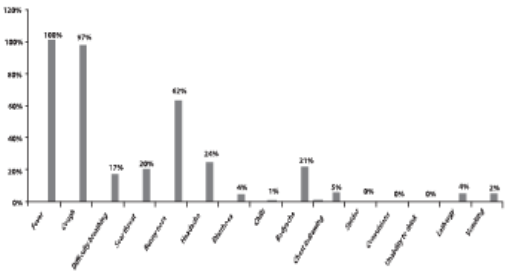


Figure: 3 Clinical features of influenza among Influenza like illness (ILI) patients in DNMCH



Discussion

This study revealed that influenza virus is prevalent in our country as a causative agent of febrile illness & acute respiratory tract infection. Surveillance data from Pune and Chennai in India suggested that 5%-12% of the influenza like illness (ILI) cases were due to influenza virus.[4] Hospital surveillance in Kenya found 248 (38%) influenza positive out of 660 collected samples.[5] In our study the incidence was 14.67% which is similar to the result of study in India. A similar result was discovered in a prior study by ICDDR,B who found 14% influenza positive cases in under-5 children in Kamlapur, a low income Urban neighborhood of Dhaka City.[6] We found that all age groups were affected with influenza but the proportion is greatest among toddler & teenage (52%), nearly half of them less than 5 years of age. In this study it was found that both of the strains of the influenza virus, type A & type B, which are circulating in the Asian countries are present in Bangladesh.[2] Clinically fever was the most common complaint in all influenza cases because this was the inclusion criteria of our study. Cough & runny nose were the next common complaint in ILI cases whereas difficulty in respiration was the commonest feature in SARI cases. Headache, Bodyache & sore throat were more common in ILI than in SARI cases. As ARI contribute to 21% death of children less than 5 years of age in Bangladesh and influenza being a major aetiological causes of ARI in its peak season, its prevention by non-pharmacological intervention or, vaccination would contribute to mortality reduction under 5 years of age and achieving mellinium development goal of reducing infant & children mortality (MDG – 4).[7]

Conclusion

In our study we revealed the spectrum of clinical features of influenza viral illness in a tertiary care hospital in Dhaka City. The recognition of clinical profile of influenza will help in early diagnosis, proper management & effective control of further spread of

influenza. Our study was done on only a small part of population of the country & further study targeting wide range of population is required for better understanding of the disease.

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